Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.   (Currently Amended) A method for determining a response to administration of a cancer chemotherapeutic agent to an individual, comprising:

(a)   collecting a first tissue or cell sample from the individual before exposing the individual to the cancer chemotherapeutic agent;

(b)   collecting a second tissue or cell sample from the individual after exposing the individual to the cancer chemotherapeutic agent;

(c)   staining the first and second tissue or cell samples with one or a multiplicity of stains that are either X-Gal, a detectably-labeled antibody directed against a biological marker, or both X-Gal and a detectably-labeled antibody directed against a biological marker, wherein said biological marker is p21, p27, p16, or TGF-β;

(d)   measuring the optical density of the stained tissue or cell samples ~~cells as~~ in step (c), wherein the stained tissue or cell samples ~~cells~~ are illuminated with light having a wavelength absorbed by the one or a multiplicity of stains ~~stain~~;

(e)   determining whether X-Gal staining, expression of the biological marker, or both X-Gal staining and expression of the biological marker was increased following exposure to the cancer chemotherapeutic agent.

2.   (Original) The method of claim 1, wherein the detectable label is a chromagen or a fluoraphore.

3.   (Canceled)

4.   (Currently Amended) The method of claim 1, wherein the expression of the biological marker ~~amount of biological marker protein~~ is determined by ELISA assay.

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5. (Currently Amended) The method of claim 1, wherein optical density of the stained tissue or cell samples ~~cells~~ is measured ~~performed~~ by image analysis.

6. (Currently Amended) The method of claim 5, wherein image analysis is performed by splitting a signal comprising the optical density of the stained cells into a multiplicity of signals that are processed using optical filters having different absorption and transmittance properties, so that each signal is specific for the one or the ~~of a~~ multiplicity of stains used to stain the tissue or cell samples ~~cells~~.